Acquired Nasopharyngeal Stenosis in a Patient with Sarcoidosis

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Introduction

Sarcoidosis has many common manifestations in the head and neck. These include chronic rhinosinusitis, chronic serous otitis media with effusion, and glottic/subglottic stenosis. The mucosa of affected areas of the upper aerodigestive tract frequently demonstrates a characteristic nodular appearance. Histopathology shows non-caseating granulomas typical of sarcoidosis. Treatment includes medical management with steroids and immunosuppressants, as well as surgical management, where appropriate.

Acquired nasopharyngeal stenosis is a phenomenon typically associated with radiotherapy of the nasopharynx or with nasopharyngeal procedures such as adenoidectomy and uvulopalatopharyngoplasty. A variety of modalities for the surgical management of this phenomenon has been reported in the literature with varied success.

We report a case of a patient with sarcoidosis with several of the common upper aerodigestive tract manifestations of the disease who developed acquired nasopharyngeal stenosis. There have been no other reported cases of acquired nasopharyngeal stenosis associated with sarcoidosis reported in the literature. We describe the successful surgical management of this patient with initial endoscopic balloon dilatation followed by transoral pharyngoplasty.

Report of a Case

A 40-year-old man with a diagnosis of sarcoidosis had been treated for chronic rhinosinusitis, eustachian tube dysfunction, and chronic serous otitis media over a six-year period during which he had undergone 3 functional endoscopic sinus surgeries, 2 placements of tympanostomy tube sets, and 2 glottic dilatations. Some of these had been done elsewhere before a diagnosis of sarcoidosis had been established. Sinonasal and glottic biopsies demonstrated non-caseating granulomas consistent with sarcoidosis. He was evaluated by a rheumatologist and maintained on methotrexate and prednisone. Initial and subsequent naso-pharyngo-laryngoscopies demonstrated characteristic erythema and nodular irregularity of the nasal cavity, nasopharynx, and glottic mucosa, and an absent posterior nasal septum. Narrowing of the nasopharyngeal port was not present.

He presented in December 2008 with new onset of nasal obstruction especially with exhalation, increased snoring, restless sleep, and daytime fatigue. Flexible naso-pharyngoscopy at that time revealed severe naso-pharyngeal stenosis. (Figure 1)

He was brought to the operating room in February 2009 where the nasopharyngeal port was visualized trans-nasally using a 70-degree rigid endoscope. The diameter was estimated at 4 mm. The nasopharyngeal stenosis was then serially dilated to 15 mm with a balloon catheter (Boston Scientific) passed trans-nasally (Figure 2) followed by injection of 20 mg of Kenalog. Improvement was seen on follow-up. (Figure 3A) The patient reported partial resolution of his symptoms post-operatively, but some nasal obstruction with exhalation and sleep difficulties persisted.

In August 2009 he was brought back to the operating room by our craniofacial surgeon who noted uvular bifidly and evidence of a submucous cleft palate. A pharyngoplasty was performed by suturing bilateral superiorly-based posterior tonsillar pillar flaps to the lateral pharyngeal walls. This allowed the nasopharyngeal port to be further widened while preserving velopharyngeal competency (Figure 3B). The patient's nasal obstruction and symptoms have vastly improved.

Conclusions

• Sarcoidosis affects multiple areas of the head & neck
• Acquired nasopharyngeal stenosis should be considered as a potential cause of nasal obstruction in the setting of sarcoidosis
• A work-up for sarcoidosis should be considered in patients with spontaneous acquired nasopharyngeal stenosis of unclear etiology
• We have demonstrated the successful management of acquired nasopharyngeal stenosis in the setting of sarcoidosis with a combination of endoscopic balloon dilatation and transoral pharyngoplasty

References